REMARKS

In reviewing the instant application, it has come to Applicants' attention that the originally-filed declarations filed by the application's joint owners (i.e., Science and Technology Corporation ("STC"), and The United States of America as represented by the Administrator of the National Aeronautics and Space Administration ("NASA")) require correction. Specifically, the declaration filed by STC omitted the NASA employees, and the NASA declaration omitted the STC employee. Accordingly, Applicants are submitting herewith corrected declarations referencing this amendment and including the surcharge required by 37 CFR 1.16(e). Applicants also respectfully request (i) that the Examiner note that both of the new declarations list "Zia-ur Rahman" as the first named inventor, and (ii) that the Examiner change the "FIRST NAMED INVENTOR" accordingly.

Claims 1-26 are in the case as of the date of this amendment. No claims have been allowed.

Claims 1-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Rahman et al. (US 5,991,456). For sake of efficiency, Applicants will repeat and address the relevant portions of this rejection as they relate to Applicants'

(i) independent claims 1, 11, 14 and 21, and

(ii) dependent claims that teach elements that are not taught or suggested by Rahman et al.

With respect to the relevant portion of the Examiner's rejection of claim 1, the Examiner contends that Rahman et al. disclose "defining a classification of said image based on dynamic range of said image in each of said S spectral bands (column 4, lines 19-60)" and "filtering said adjusted intensity value for each said position of said image in each of said S spectral bands using a filter function based on said classification of said image ... (column 4, lines 19-60, column 8, lines 11-13)".

With respect to the relevant portion of the Examiner's rejection of claim 11, the Examiner contends that Rahman et al. disclose "filtering said adjusted intensity value for each of said plurality of pixels with a filter function that is based on dynamic range of said JxK image ... (column 9, lines 25-30)".

With respect to the relevant portion of the Examiner's rejection of claim 14, the Examiner contends that Rahman et al. disclose "defining a classification of said JxK image based on dynamic range of each said $(JxK)_i$ (column 4, lines 19-60)" and "filtering said weighted sum for each of said plurality of pixels in each said i-th spectral band with a filter function that is based on said classification of said JxK image ... (column 4, lines 19-60, column 8, lines 11-13, column 10, lines 25-28)".

With respect to the relevant portion of the Examiner's rejection of claim 21, the Examiner contends that Rahman et al. disclose "defining a classification of said image based on

dynamic range of said image in each of said S spectral bands (column 4, lines 19-60)" and "filtering said adjusted intensity value for each said position in each i-th spectral band with a function based on said classification of said image".

The rejection of independent claims 1, 11, 14 and 21 is respectfully traversed.

As pointed out in Applicants' originally-filed application, Rahman et al. teach a method of improving a digital image. The image's digital data is indicative of an intensity value for each position in each spectral band. The intensity value for each position in each spectral band is adjusted to generate an adjusted intensity value. The adjusted intensity value for each position in each spectral band is then filtered with a common function (emphasis added).

In contrast, Applicants teach and claim (in claim 1, for example) a method of processing a digital image that is defined by digital data indexed to represent positions of an image having S spectral bands for simultaneous output on a display. The digital data is indicative of an intensity value $I_i(x,y)$ for each position (x,y) in each i-th spectral band. In accordance with Applicants' instant invention, the features of the image indicative of the image's dynamic range are evaluated in each of the S spectral bands to thereby identify a class associated with the dynamic range (emphasis added). After the intensity value for each image position in each i-th spectral band is adjusted to

generate an adjusted intensity value, Applicants' instant inventive method proceeds to select a filter function based on the class associated with the image's dynamic range (emphasis added). The selected filter function is one that has been optimized in terms of offset and gain for the dynamic range associated with the class. Finally, the previously adjusted intensity value is filtered using the selected filter function. Applicants' remaining independent claims (i.e., claims 11, 14 and 21) have been amended in a similar fashion to more particularly point out and distinctly claim the unique features of the present invention. Support for the amended claim language can be found in Applicants' originally-filed specification at page 10, line 19, to page 12, line 34.

Nothing in Rahman et al. teaches or even suggests evaluating features indicative of an image's dynamic range to establish a class and the subsequent use of this class to select a filter function (from a store thereof) that has been optimized in a predetermined fashion (in terms of the filter's offset and gain) in accordance with the image's dynamic range identified by the class. In sharp contrast, Rahman et al. teach the use of a filter function that is common for all pixels and for all images (emphasis added) see column 5, lines 1-3. This clearly teaches away from Applicants' instant invention that selects its filter function based on the image's dynamic range, a feature that changes from image to image. Accordingly, Applicants

respectfully submit that independent claim 1, 11, 14 and 21, as well as claims 2-10, 12-13, 15-20 and 22-26 as respectively depending therefrom, are patentable over the prior art of record.

In addition, Applicants dependent claims 7-10, 13, 17-20 and 23-26 teach elements that are not taught or suggested by Rahman et al. Specifically, with respect to claims 7, 17 and 24, the Examiner contends that Rahman et al. discloses "...the step of using image statistics associated with said image in each of said S spectral bands to select said filter function (column 4, line 61 to column 5, line 5, column 6, lines 1-21)". However, as explained above, Rahman et al. uses a common function for all images and does not teach or suggest any method for selecting a filter function or the use of image statistics to perform such a selection as Applicants teach and claim.

With respect to claims 8, 18 and 25, the Examiner contends that Rahman et al. disclose "image statistics include brightness and contrast of said image in each of said S spectral bands (column 2, lines 55-64, column 4, lines 19-37)". Applicants acknowledge that brightness and contrast are known "image statistics". However, Rahman et al. do not teach or suggest how to use these statistics in the context of selecting a filter function as Applicants teach and claim. Further, Applicants respectfully point out that the reference in Rahman et al. to adjusting pixel intensity optimally for either dynamic range compression or improved lightness rendition (column 2, lines 35-

37) relates to the surround function implemented by the "adjusting" step in Applicants' claim 1, and is not related to filter function selection.

Finally, with respect to claims 9-10, 13, 19-20 and 26, the Examiner contends that Rahman et al. disclose "selecting a maximum intensity value $V_i(x,y)$ from the group consisting of said intensity value $I_i(x,y)$ and said filtered intensity value $R_i(x,y)$ (column 4, line 6 to column 5, line 5)" and "displaying an improved image using said maximum intensity value $V_i(x,y)$ (column 2, line 60 to column 3, line 20)". Applicants' method can additionally (i.e., optionally) include process steps that will improve a digital image that has large white zones. That is, Applicants' previously described method (i.e., claimed in the instant independent claims) can also include processing steps to address images having large white zones. See Applicants' originally-filed specification at page 12, line 35, to page 13, line 15. Applicants respectfully submit that the referenced portions of Rahman et al. do not teach or suggest the method steps in each of claims 9-10, 13, 19-20 and 26. Indeed, the referenced portions of Rahman et al. do not even acknowledge the problems associated with images having large white zones, let alone a method for solving the problem as Applicants teach and claim.

To summarize, Rahman et al. do not teach or suggest a method of processing a digital image that is disclosed and claimed by

Applicants in the instant claims 1-26. In view of all the art of record, the claims remaining in the case are considered to patentably distinguish thereover.

It is submitted in view of these remarks that all grounds for rejection have been removed by the foregoing amendment. Reconsideration and allowance of this application are therefore earnestly solicited.

The Examiner is invited to phone Peter J. Van Bergen, attorney for Applicant, 757-220-2649, if in her opinion such phone call would serve to expedite the prosecution of subject patent application.

Respectfully submitted,

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